9-18-2008

A Giant in Nanotechnology

University of Dayton, Ohio (url: http://www.udayton.edu/index.php)

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09.18.2008 | Engineering

The scale of William King's work is extremely tiny — measured in billionths of meters — and extremely technical. But the development of thermal dip pen nanolithography is just one of the significant contributions King, a 1996 mechanical engineering graduate, is making to unlock the power of nanotechnology.

One newspaper compared thermal dip pen nanolithography to using a glue gun. A superheated tip at the end of an atomic-force microscope melts and cools solid materials millions of times per second to write circuit patterns "so tiny," according to *New York Times* reporter Anne Eisenberg, "that half a million of them could fit within the dot above the letter 'i.'"

The result: "'Writing' data at 50 times the density of today's best hard drives," according to *Technology Review.*

Nanotechnology is a field King found "mostly by accident," he said. "The field is concerned with exploiting the ways that things can be different when they are very small. Because most of the best things in nanotechnology have yet to be invented, there are a large number of opportunities for inventing things in the nano-world."

King's work makes him one of the hottest young researchers in the country. In 2006, he was named to the TR35, the *Technology Review's* list of the top 35 young innovators under the age of 35, and in 2005 he was awarded the Presidential Early Career Award for Scientists and Engineers by President Bush and the Department of Energy. In 2004, UD's School of Engineering presented him its Outstanding Alumni Award.

He continues his work as the Kritzer Faculty Scholar and associate professor in the mechanical science and engineering department at the University of Illinois at Urbana-Champaign.

And in May, he'll celebrate his 35th birthday.

— Matthew Dewald